FINDING OF EMERGENCY

The Secretary of the Department of Food and Agriculture finds that an emergency exists, and that the foregoing adoption of a regulation is necessary for an immediate action to avoid serious harm to the public peace, health, safety or general welfare, within the meaning of Government Code Section 11342.545 and Public Resources Code Section 21080. The Secretary has also determined that this emergency clearly poses such an immediate, serious harm that its delaying action by providing five working days advance notice to allow public comment would be inconsistent with the public interest, within the meaning of Government Code Section 11346.1(a)(3). Further, the Secretary has determined that this emergency clearly poses such an immediate, serious harm that delaying action by the Office of Administrative Law providing five working days advance notice to allow public comment would also be inconsistent with the public interest, within the meaning of Government Code Section 11349.6(b).

Description of Specific Facts Which Constitute the Emergency

On September 16, 2005, the United States Department of Agriculture (USDA), Animal and Plant Health Service (APHIS), issued a Federal Order to impose restrictions on the interstate movement of Asian citrus psyllid (ACP), *Diaphorina citri*, host material and citrus greening (CG) host material from quarantined areas in Florida in order to prevent the artificial spread of CG and ACP. APHIS subsequently issued revised Federal Orders on May, 3, 2006, October 30, 2007, November 2, 2007, January 11, 2008, June 5, 2008 and June 24, 2008. On July 14, 2008, APHIS issued its last Federal Order as a result of finding ACP and CG in Louisiana. Under this last Federal Order, 1) the entire State of Florida and Orleans parish, Louisiana are regulated for CG; 2) portions of the States of Texas and Louisiana for ACP; and, 3) the entire States of Florida and Hawaii, entire Territory of Guam, and the Commonwealth of Puerto Rico, for ACP.

CG is also referred to as Huanglongbing (HLB), which is associated with several species of the genus *Candidatus* Liberibacter a phloem-limited, uncultured bacteria. HLB is also referred to as "yellow dragon disease" and "yellow shoot disease." The spread of the CG-associated bacteria is primarily via the insect vectors, the ACP and the African citrus psyllid (*Trioza erytreae*). Once a psyllid acquires the bacterium, it retains it for life. The ACP is of most concern to California citrus growers because it is established in Florida, Louisiana, Texas, Hawaii and Mexico and poses a more immediate threat of introduction from these areas. It also occurs elsewhere, such as Brazil, China, Cuba and the Caribbean. The African citrus psyllid is found in eastern Africa, Saudi Arabia, Yemen, and occasionally in the Canary Islands and Madeira.

The Federal Order prohibits the interstate movement of nursery stock host material from an ACP regulated area to any other citrus-producing State. Additionally, all host fruit must be cleaned, washed and packed at a packing facility located with the regulated area prior to its be eligible for interstate shipment. The USDA cannot regulate less than an entire state which has an ACP infestation unless the affected state adopts its own regulation pertaining to the intrastate movement requirements which are substantially the same as the federal restrictions pertaining to the interstate movement requirements. Texas has already adopted an ACP quarantine and Louisiana is in the process of adopting a regulation.

Once infected, there is no cure for the CG infected citrus trees, which decline and die within a few years. Additionally, the fruit produced by infected trees is not suitable for either the fresh market or juice processing due to the significant increase in acidity and bitter taste. For these reasons, CG is considered the most devastating of all citrus diseases and is even listed as a "select agent" under federal regulation.

On June 27, 2008, APHIS provided notification that ACP was confirmed in Tijuana, Mexico. The ACPs were first collected from a residential property located approximately two miles from Mexico's border with California. In response to the detections in Tijuana, Mexico, on

July 14, 2008, the Department developed draft “ACP Detection, Delimitation, and Treatment Guidelines.” These guidelines are based in part on the USDA New Pest Response Guidelines for Citrus Greening Disease (Floyd and Krass 2008) and the Department’s Glassy-Winged Sharpshooter Statewide Survey & Delimitation Protocols as of 2002 [Revised March 2008] (CDFA 2008). Additional information came from Grafton-Cardwell et al. (2006).

These guidelines include detection protocols that are designed to enhance the statewide protocols for urban, rural residential, cropland, and nursery survey with intensified survey protocols being proposed in those counties bordering Mexico (San Diego, Imperial). The Department proposes to immediately conduct intensified survey activities in San Diego County within a five mile band north of the California Mexico border. The immediate survey plans have two major components, an Urban and Rural Residential Detection Survey and a Nursery Detection Survey.

The Urban and Rural Residential Detection Survey will use yellow panel traps at a density of five traps per square miles, serviced weekly and the traps will be replaced and relocated every six weeks to another host at least 500 feet away (if other hosts are available). Additionally, visual surveys and the use of sweep nets will be conducted once at each trapping site when the trap is placed or relocated at that site. Finally, twenty sites per square mile will be visually inspected and sweep-netted each month. These sites will be rotated each month if hosts are available at alternate sites.

The Nursery Detection Survey will use yellow panel traps at a density of five traps per acre, traps will be placed in or near hosts and in and around holding areas designated for incoming shipments. The traps will be serviced weekly, will not be rotated and will be replaced every six weeks or sooner if needed. A monthly visual survey will also be conducted.

In order to know what to inspect, the Department combined the ACP host list contained in the Federal Order issued on July 14, 2008 with the ACP host list sent to Florida nurseries on September 14, 2005, by the Florida Department of Agriculture and Consumer Services.

The ACP adults are small (three to four mm) with mottled brown wings and typically survive one to two months depending upon temperature. The ACP can transmit the CG-associated bacteria from the fourth nymphal instar through the adult stage with a latent period as short as one day or as long as 25 days. The bacterium is thought to replicate in the psyllid.

The ACP completes its life cycle on *Citrus* species and close rutaceous (citrus) relatives. All life stages (eggs, nymphs, and adults) can be found on the new growth or shoot tips. Adult psyllids typically lay their eggs on the tips of growing shoots or in the crevices of unfolded feather-flush leaves. Eggs are almond-shaped and bright yellow-orange. There are five nymphal instar stages. Adults feed on the underside of leaves. Their feeding behavior is characteristic with their bodies lifted at about a 45^{o} angle from the leaf surface. During feeding, large amounts of plant sap are extracted and subsequently excreted as honeydew or waxy tubules. As this insect feeds, it injects a salivary toxin that causes the developing shoots to be malformed; twisted, curled, or laterally notched. In severe cases, the shoot tip will die. In addition, infested leaves may be covered with white waxy deposits from the psyllids and sooty mold that grows on the large amounts of honeydew excreted by the psyllids. In Florida, the ACP was found before symptoms of CG were observed, and this could certainly occur in California.

ACP is found on four continents and numerous islands. It is widespread in southern China, Southeast Asia, India, Indonesia, and New Guinea. On the African continent, it is limited to Saudi Arabia. In South America, ACP is well established in Brazil and is also found in Paraguay, Venezuela, Bolivia and up through Central America. On the mainland of the United States ACP is well established in Florida and Texas. There are large populations in

Hawaii on the islands of Hawaii, Maui and Oahu. In addition, it is known to occur in over 15 states in Mexico and in Cuba.

The most probable pathways by which CG-associated bacteria and the ACP could arrive in California are:

- On or in citrus and other host plants or plant parts shipped for the floral and culinary/herbal industries, either legally or illegally; markets in Los Angeles, San Francisco and other large metropolitan areas are especially at risk
- Illegal or inadvertent movement of plant material infected with CG-associated bacteria and/or infested with inoculative ACP to citrus and ornamental nurseries
- Trucks carrying bulk citrus fruit from outside California that have not been washed or treated in any way and may contain leaves, branches, etc.
- Private and commercial vehicular traffic from Mexico (especially Baja California), Florida, and Texas
- E-Commerce
- Migrant farm workers
- On citrus and other host plants or plant parts in cargo, baggage, or mail
- Other infected host plants or plant parts such as *Murraya* spp. and *Bergera koenigii* in permit cargo, baggage, mail or transport to retail establishments of all sizes
- By natural spread of adult psyllids, possibly carrying CG-associated bacteria, on wind currents
- Movement of plants via major retail outlets
- Psyllids hitchhiking in airplanes, ships, trucks, cars, baggage, cargo, mail
- On plants brought in by tourists and new immigrants

ACPs are most likely to enter California through human activities such as the bulk shipment of citrus fruit from infested areas of Mexico and Texas and the inadvertent movement of

Rutaceous plant material from infested regions of Asia, Mexico, the Southwestern United States, or Hawaii. Natural movement of ACP can occur into:

- Southwest Texas from the Mexican states of Nuevo Leon and Tamaulipas,
- Arizona from the Mexican state of Sonora
- California from the Mexican states of Sonora and Baja California

The probability is high that a private citizen, tourist or immigrant will introduce the CG-associated bacterium into California through the inadvertent movement of plant material including fruit from their homeland or areas visited to their backyard in a residential area. CG-infected trees do not live long and this scenario may be self-eliminating, at least until the psyllid arrives. One possible explanation for the Florida situation is that numerous backyard citrus trees had been infected with CG but in the absence of a vector, it went unnoticed. Once the ACP became established, it moved the CG-associated bacteria from backyards into commercial groves. The movement of both CG-associated bacteria and the ACP appear to have been accelerated through the movement of *Murraya* and citrus plants through retail nurseries and garden centers, especially of the nationwide chain stores.

California is the number one economic citrus state in the nation, with the USDA putting the value of California citrus at $1,131,851,000 (Federal Register Vol. 71No.83; published May 1, 2006; pg 25487). A 2002 report by the Arizona State University School of Business indicates that there is at least $825.6 million of direct economic output and another $1.6 billion when all upstream suppliers and downstream retailers are included. This represents over 25,000 direct and indirect employees. To protect this source of revenue, California must do everything possible to exclude both CG-associated pathogens and ACP from the state.

For 2008 in Florida, the estimated increased production costs for citrus range from $266 to $332 million. There are approximately 600,000 acres of citrus in production in Florida.

This translates into increased production costs of $443 to $553 per acre. This estimated is based upon an eight dollar per tree replacement cost. In California, the estimated cost to replace a tree is from $10 to $20. Using a cost of $15 per tree would push the projected production costs up to $450 to $550 per acre. The estimated citrus acreage in 2008 in California is approximately 290,000 acres. The projected increased citrus production costs in California would be at least $130.5 to $159.5 million.

In 2007, the California Institute for Specialty Crops determined that California citrus growers absorb production inputs and state mandated costs greater than producers anywhere else in the nation or the world. To maintain a competitive opportunity, the California citrus industry has to produce a consistently better piece of fruit in greater volume. If the quality of California citrus deteriorates, the California producer loses export opportunity and domestic shelf space. For every 1,000 acres of orange productivity lost, losses of $1.7 million in output and over $3.4 million in total state economic activity, including $1 million in employment income, would result. Should CG-associated bacteria become established throughout California, not just citrus growers but California's economy as a whole would suffer. Further, Federal, State and County regulatory personnel would have increased duties and program costs should survey and eradication activities be implemented. This would further strain an already-impacted State budget.

It should be noted that citrus acreage in Florida has decreased from approximately 858,000 acres in 2005 when HLB was initially detected, to approximately 600,000 acres in 2008. The lost acreage was due to a combination of HLB, citrus canker, hurricanes and real estate investment. However, whatever losses were due to HLB will be even greater in California because most citrus produced is destined for the fresh market, rather than juice as it is in Florida.

The introduction of ACP would impose federal quarantine quarantines on citrus and ornamental nurseries alike, impeding the sale of nursery stock to citrus growers and

homeowners. In Florida, when ACP and CG became established, strict nursery quarantines were implemented and many nurseries went out of business. In Florida there currently is not sufficient pathogen-free nursery stock available to replant dying groves.

History of Interceptions in California

1. In August of 2007 a shipment of curry-leaf (*Bergera koenigii*) from Hawaii containing live, adult *Diaphorina citri* was intercepted at the San Francisco International Airport. The ultimate destination was an Asian produce market in San Jose. This was the first recorded find of ACP on the island of Oahu.

2. In the same month, a package containing live, adult psyllids came through the same facility from China under an USDA, APHIS permit. The permit had been issued to a researcher in Gainesville, FLorida. The packaging was described as "flimsy" and the vials containing the insects were broken.

3. In the fall of 2007, USDA personnel, while monitoring e-Commerce sales, discovered several transactions of citrus plants sold to individuals in California by sellers in Florida. Inspectors were sent to both the senders and the receivers of these materials.

4. Live ACPs were intercepted again in October 2007 on shipments of *Bergera koenigii* from Hawaii at the San Francisco and Los Angeles Airports.

5. On January 31, 2008 Los Angeles County Agricultural Inspectors intercepted live ACP on a shipment of *Bergera koenigii* from Hawaii. The plant material had been fumigated (methyl bromide) and was properly certified prior to shipment. As a result of this interception, the Department notified the California State Plant

Health Director's office (USDA) that, effective February 1, 2008; all shipments of curry leaves are prohibited entry into California under authority of Food and Agricultural Code Section 6461.5 until further notice.

6. San Diego County Agricultural Inspectors intercepted *Zanthoxylum* sp., a member of the Rutaceae, (on the host list for ACP) in floral displays during intensified inspections along the California-Mexico border in February 2008.

7. On February 20, 2008 the USDA and Los Angeles County agricultural inspectors confiscated *Murraya paniculata* plant material at the Los Angeles Flower Market. These plants originated in Florida and were manifested as "coffee foliage".

8. Florida inspectors found stock misidentified as *Aglaia* at a nursery located in the canker and CG quarantine area of Florida. Plants were confirmed as *Zanthoxylum*. A trace forward revealed over 600 hundred plants had been shipped to a nursery in Half Moon Bay, CA and had been manifested as "mixed bonsai". The original source of the material was to Miami, FLorida from China and had also been misidentified as *Aglaia* sp.

When interceptions occur, insect and/or plant samples are collected and sent to a diagnostic laboratory (either USDA or the Department) for insect identification and and/or analysis for CG-associated bacteria. To date, no plant material has tested positive for CG-associated bacteria. With permission of property owners, insect traps have been placed around the sites of the interceptions and are monitored regularly. To date, no ACP species has been detected in the traps or in a field location.

The Department currently conducts a voluntary statewide survey of commercial citrus for ACP and symptoms of CG (Huanglongbing). The Department's regional Field Plant Pathologists supervise crews that survey citrus groves as resources allow. Citrus and ornamental nurseries are also checked periodically. Crews are trained based on the knowledge that psyllid populations are predominant in the spring whereas disease symptoms are most obvious in the fall. Surveys must also be timed to the period of best flush of new growth. The USDA's Cooperative Agricultural Pest Survey (CAPS) Program has funded this survey, in part.

1. Commercial Survey: Spring and fall surveys are conducted in commercial citrus throughout the state. Approximately 25% of commercial citrus orchards are targeted annually. A visual inspection of host plants is conducted by looking for symptoms of citrus greening (blotchy mottle of leaves, yellow sectors of individual trees, abnormal shaped fruit) and the presence of any life stages of the two species of psyllids. Any suspect plant material or insect is collected and submitted for analysis and identification.

2. Residential survey: This survey targets areas that are at risk of the introduction of CG-associated bacteria or the vector. High-risk areas include those areas that receive plant material from eastern or southern Asia. Each District Plant Pathologist receives grid maps defining the areas to survey. Five residences are surveyed per square mile. In the counties that maintain a State-run trapping program for fruit flies, The Department's detection trappers conduct the survey; in the other high-risk counties, the Department's plant pathologists and others perform the survey.

3. Nursery survey: The Department's District Plant Pathologists inspect all the citrus production nurseries annually and County Agricultural Inspectors conduct additional inspections in some counties. Ornamental nurseries that regularly

carry citrus or citrus relatives, especially *Murraya paniculata,* are inspected every year.

4. Yellow Panel Traps: Traps are placed in nurseries, at the dumping/unloading stations at packing houses, especially those importing fruit from Mexico and Texas, and in the vicinity of produce markets, especially those known to import curry-leaf. Any suspect specimens are submitted for identification.

The California citrus industry has taken a great deal of responsibility in preparing for the introduction and establishment of CG-associated bacteria and psyllid vectors. Funding has been allocated towards research on easy, early (i.e., pre-clinical) detection methods (i.e., one primer set to detect all strains rather than primer sets specific for each known strain; host systemic responses) and the identification of CG-associated bacterial strains, and vector relationships. In addition, a public relations firm has been hired to determine the most effective and efficient methods to educate the general public and make them feel as though they are part of the solution. Industry leaders (research and marketing boards) are involved in procuring federal funds for national research programs in the areas of host plant resistance, etiological agents and variants of CG, specific native and exotic natural enemies of the insect vectors, and pesticide efficacy and new chemistries.

California citrus industry leaders recognized how Florida was at a loss of ample supplies of CG-free citrus stock when the pathogen was detected in 2005. As a result, plans are underway to expand the screenhouse facility at the UC Lindcove Research and Extension Center that houses the industries pathogen-free budwood source to allow for the protection of additional varieties. Other alternatives are being considered to protect valuable citrus propagation sources, germplasm, and breeding material such as isolated and/or protected locations and tissue culture. For long-term survey and management, the industry may pursue the formation of pest control districts.

In Florida and countries where CG exists, insecticides have been a first line of defense to eliminate the psyllid vector, thereby reducing the spread of the CG-associated pathogens. Applying insecticide sprays at critical flushing periods in order to kill psyllid nymphs may be an effective method of CG control should CG be introduced into California. Since insecticide use registrations vary between crops and urban areas and between fruit trees and ornamentals, any eradication treatment program will need to be tailored to each situation.

A number of registered insecticides, including insect growth regulators and biocontrol agents of unknown efficacy for ACP control should be evaluated for potential use:

1. Commercial citrus: methomyl, formetanate, malathion, piperonyl butoxide + pyrethrins, pyrethrins, pyriproxyfen and *Beauveria bassiana* (a fungal biocontrol agent).

2. Nursery citrus: bifenthrin, permethrin, acephate, dinotefuran, Imidacloprid + cyfluthrin, azadirachtin, *B*. *bassiana*, pyriproxyfen, pyrethrin + rotenone, Kryocide and dinotefuran.

3. Ornamentals: permethrin and acephate.

The implementation of biological control methods (the use of beneficial organisms to attack pest populations) will be an important component of an integrated pest management program to reduce populations of the ACP. As there are no known psyllids in California citrus, exotic natural enemies from the pest's area of origin may need to be imported into the United States or from Florida under strict quarantine protocols. There may be some generalist predators such as the coccinellid beetles that will come into citrus from other habitats but to what extent these would be effective is not known at this time. Natural enemies obtained from commercial sources or mass reared by government or industry

personnel can be periodically released into field situations once the psyllid becomes established.

Populations of ACP in Florida are fed upon by many generalist arthropod predators such as spiders, lacewings, hover flies or syrphids, and minute pirate bugs, and are attacked by a number of parasites. The coccinellids exert the greatest amount of control. Two lady beetles, *Olla v-nigrum*, which is native to California and *Harmonia axyridis* are the most important predators of ACP nymphal stages in Florida. *H. axyridis* was imported from Japan to control the pecan aphid and is established in parts of California. Two tiny parasitic wasps have been imported and released in Florida. *Tamarixia radiata* was imported from Taiwan and Vietnam, and *Diaphorencyrtus aligarhensis* was imported from Taiwan.

The ACP has the capability of causing significant irreparable harm to California's agricultural industry, especially if CG is also introduced. While the Department's compliance with the California Administrative Procedure Act and the California Environmental Quality Act (CEQA) are separate actions, they can be interrelated. Although adoption of specific regulatory authority can be the beginning of a project and therefore covered by CEQA, this regulation, for the reasons already set forth, constitutes a specific act necessary to prevent or mitigate an emergency as authorized by Public Resources Code Section 21080, subdivision (b) (4) and Title 14, California Code of Regulations Section 15269, subdivision (c). The regulation is also an action required for the preservation of the environment and natural resources as authorized by Title 14, California Code of Regulations, sections 15307 and 15308.

What eradication options the Department intends to implement is dependent upon the size of the infestation, its location(s) and which materials may be registered for use and has adequate efficacy data. Minimally, the searching for all life stages as authorized by the regulation needs to continue throughout California as unknown introduction pathways exist.

Additionally, prior to the implementation of any eradication activities, the Department must also comply with any requirements contained in the California Environmental Quality Act.

The Department's draft "ACP Detection, Delimitation, and Treatment Guidelines" also addresses the overall survey strategy for all of California, not just five mile buffer area along California-Mexico border. The Department has also determined that to ensure it conducts any eradication project with the greatest chances of success, some eradication activities authorized by this regulation need to begin as soon as possible. This authority includes, establishing the legal authority for "The searching for all stages of the ACP by visual inspection, the use of traps, or any other means." Due to the new immediate threat posed by the known ACP population in Tijuana, Mexico, in the San Diego area within five miles of the California-Mexico border, the Department needs to immediately establish it has the legal authority to conduct ACP surveys without its having to just rely on property owners voluntarily granting access in order to complete the surveys.

The effect of the adoption of this regulation will be to implement the State's authority to search for all stages of the ACP by visual inspection, the use of traps, or any other means. The effect of the adoption of this regulation will also be to establish the hosts and possible carriers and the means and methods to perform suppression, control and eradication activities against ACP throughout California. Any eradication or control or suppression actions undertaken by the Department will be in cooperation and coordination with federal, city, county and other state agencies as deemed necessary by the Department to ensure no long-term significant public health or environmental impacts and adhere to the Department's obligations under CEQA. To detect ACP and prevent its spread to non-infested areas, and to protect California's agricultural industry and environment, it is necessary to search for all life stages of ACP immediately. Therefore, it is necessary to adopt this regulation as an emergency action.

Authority and Reference Citations
Authority: Sections 407 and 5322, Food and Agricultural Code.
Reference: Sections 407, 5322, 5761, 5762 and 5763, Food and Agricultural Code.

Informative Digest

Existing law provides that the Secretary is obligated to investigate the existence of any pest that is not generally distributed within this state and determine the probability of its spread, and the feasibility of its control or eradication (FAC Section 5321).

Existing law also provides that the Secretary may establish, maintain and enforce quarantine, eradication and other such regulations as he deems necessary to protect the agricultural industry from the introduction and spread of pests (Food and Agricultural Code, Sections 401, 403, 407 and 5322). Existing law also provides that eradication regulations may proclaim any portion of the State as an eradication area and set forth the boundaries, the pest, its hosts and the methods to be used to eradicate said pest (Food and Agricultural Code Section 5761).

Section 3591.21. Asian Citrus Psyllid Eradication Area.

The adoption of Section 3591.21 will establish that the entire State of California is an eradication area with respect to ACP. The proposed adoption of the regulation will also establish the possible carriers and the means and methods that may be used to eradicate, control or suppress ACP within any specific eradication area(s). The effect of the adoption of this regulation is to provide authority for the State to perform eradication activities against ACP within the entire State of California.

Mandate on Local Agencies or School Districts

The Department of Food and Agriculture has determined that the proposed adoption of Section 3591.21 does not impose a mandate on local agencies or school districts and no reimbursement is required under Section 17561 of the Government Code.

Cost Estimate

The Department has also determined that the regulation will involve no additional costs or savings to any state agency because initial funds for state costs are already appropriated, no nondiscretionary costs or savings to local agencies or school districts, no reimbursable savings to local agencies or costs or savings to school districts under Section 17561 of the Government Code and no costs or savings in federal funding to the State.